N U T R I T I O N

FACT SHEET

■ DIARRHEA IN INFANCY AND EARLY CHILDHOOD

Diarrhea is an increase in frequency, fluidity, or volume of stools relative to the usual habit of the individual. Diarrhea in infants and young children can lead quickly to dehydration and, if not treated immediately, can be fatal. The goal of diarrhea therapy is to prevent dehydration through replacement of lost fluids and electrolytes (the sodium, potassium, chloride and other electronically charged salts found in blood, tissue, fluids and cells).

NORMAL BOWEL PATTERNS

There is a range of normal bowel patterns among healthy children that varies depending on age and/or usual dietary intake.

AGE	*FREQUENCY OF STOOLS*
Breastfed infant	two to five per day for first three months
Formula-fed infant	
Q-1 week	four to five per day
l-3 months	two per day
When solid foods are introduced (around 4-6 months)	less than two stools per day
Children 1-4 years	varies from one every four days to two to three per day

IMPORTANCE OF DIARRHEA MANAGEMENT

If dehydration occurs, immediate referral to a physician is required. Oral rehydration therapy (ORT) is the preferred treatment of the loss of fluids and electrolytes caused by diarrhea in children with mild to moderate dehydration.

In the past it was common practice to restrict milk products, milk-based formulas, and other foods when an infant or child had diarrhea. However, the American Academy of Pediatrics now recommends that children who have diarrhea and are not dehydrated should continue to be fed age-appropriate diets. Studies have shown that unrestricted diets do not worsen the course or symptoms of mild diarrhea and can decrease stool output. There is also the additional benefit of improved nutrition with continued feeding.

CAUSES OF DIARRHEA

Acute diarrhea (lasting less than two **weeks)** may be caused by:

- Intestinal infections (e.g., viruses, bacteria, parasites)
- Non-intestinal infections (e.g., inner-ear infections, respiratory infections)
- Toxic ingestion (e.g., lead, mercury, too many iron supplements)
- Emotional tension
- Drug withdrawal
- Inappropriate feeding practices (e.g., excessive feeding of juice)
- Antibiotic therapy

Chronic organic diarrhea (lasting longer than two weeks) may be caused by:

- Small-intestinal disorders (e.g., celiac disease, short-gut syndrome)
- Pancreatic insufficiency (e.g., cystic fibrosis)
- Immune deficiencies with recurrent or prolonged infections (e.g., AIDS)

Carbohydrate malabsorption (e.g., lactose intolerance)

- Drug withdrawal
- Infectious agents (e.g., giardia lamblia, E. coli)

Noninfectious inflammatory (e.g., Crohn's, celiac disease)

Cow's-milk or soy-protein allergy

DIETARY MANAGEMENT OF ACUTE DIARRHEA TO PREVENT DEHYDRATION

Educate the parent or caregiver on how to increase fluids and electrolyte intake to prevent dehydration as well as about the importance of consuming an adequate diet to prevent malnutrition.

Commercially produced **oral electrolyte solutions** (OES) such as Pedialyte and Infalyte may be used if available and affordable. Homemade electrolyte solutions may be prepared by slowly adding 2 cups of boiled and cooled water and % level measuring teaspoon of salt to % to 1 cup of infant rice cereal.

Dosage: Give % cup of commercial or homemade OES every hour using a small spoon, if child is under 2 years of age. (OES should be given slowly, so its best to give it by spoon.) However, if an infant cannot take it by spoon, it can be fed by bottle or cup slowly. If the child is over 2 years of age, give I% to 1 cup every hour.

Sometimes infants or young children will not drink OES, so **other suitable fluids** may be given to prevent dehydration. Breastfed infants should be breastfed more often and formula-fed infants should be fed formula more frequently. Plain water can be used only if given with starchy foods that contain some' salt, like soda crackers or pretzels.

Fluids that should **not** be given unless they are the only fluids available or are the only fluids the infant or child will take include soft drinks, Kool-aid sports drinks, fruit juice, sweetened fruit drinks, or sweetened tea. Sugary solutions tend to increase diarrhea, so dilute the above-mentioned fluids before feeding (e.g., % cup fruit juice mixed with '/z cup water).

The infant's or child's regular foods/fluids should be given to prevent malnutrition. Breastfed infants should continue to breastfeed, and formula-fed'infants should continue their usual formula.

Recommended foods for infants

Infant foods recommended include cooked infant rice cereal, mashed bananas, mashed cooked vegetables, and soda crackers.

Recommended foods for older infants and children

Foods recommended for older infants and children include meat or fish, eggs, dried beans, milk products, cooked vegetables, and bananas.

WHEN TO REFER AN INFANT OR CHILD TO A DOCTOR

a If infant /child has a fever above 99 degrees F

- If diarrhea is black or bloody
- If diarrhea continues for more than 24 hours
- If infant/child has five or more episodes of watery diarrhea in 24 hours
- If infant/child has signs of dehydration (e.g., dry mouth and tongue, no tears when crying, less than six wet diapers a day, etc.)

SANITATION METHODS TO PREVENT SPREAD OF DIARRHEA

- Wash hands with soap and water before preparing meals, before feeding a child, after using the toilet, and after changing a diaper.
- Sterilize bottles, equipment, and water used for preparing formula.

❑ Throw away any formula left in the bottle after feeding.

•I Wash all fruits and vegetables before giving them to children.

m Follow food-safety precautions when cooking and serving foods.

■ Promptly refrigerate foods that can spoil.

■ Wash dishes and utensils well after use.

❑ Do not feed an infant baby food right out of the jar.

References

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